NASA Procedural Requirements

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CHAPTER 5. Developing and Implementing Commercial Technology Partnerships

5.1 What Are Commercial Technology Partnerships?

5.1.1 Commercial technology partnerships are collaborations among the government, industry, and/or academia wherein each party commits resources to the accomplishment of agreed-to objectives and shares the risks and rewards of the endeavor. In general, to qualify as a commercial technology partnership, the arrangement should include the following criteria:

a. The partnership must be documented in a form which, at a minimum, substantiates the relationship between the partner and NASA;

b. The partnership must include at least one of the following parties: NASA, JPL, or a contractor, grantee or recipient acting under an appropriate legal instrument, such as a contract, grant, cooperative agreement, or Space Act Agreement;

c. The partnership should have an intent of either commercializing a NASA-derived technological asset or providing support for a private sector or university-derived technological asset; and,

d. The partnership must anticipate the transfer of technical know-how or data from one entity to another.

Note: NASA technology commercialization activities are intended to foster domestic utilization of NASA-developed technologies among the public and private sectors of the U.S. economy. Consequently, NASA does not form partnerships with foreign entities, except as provided in NPD 2110.1 and NPD 2210.1.

5.1.2 In addition, commercial technology partnerships can usually be characterized into one of the following categories:

a. Contractor Technology Commercialization: Commercialization of technologies developed under NASA contracts, grants, cooperative agreements, and Space Act Agreements.

b. Industry-led Partnerships: The formation, funding, and implementation of industry-initiated and-led partnerships with NASA to develop aeronautics and space technologies, including dual-purpose technologies.

c. Commercial Product Development: Industry-led development of commercial products and services from space.

d. Dual-Purpose Technology Development: NASA technology development with dual-purpose applications in the aeronautics/space industry as well as in the nonaerospace commercial industry.

e. Small Business Development: The formation, growth, and accelerated development of small business by bringing together the five essential contributing business success factors: technology, talent, capital, business know-how, and market need.

f. Regional Alliances: Alliances with state and local governments and other federal agencies.

5.2 NASA Commercial Partnership Goal

In accordance with NPD 7500.2, NASA's annual investment in commercial technology partnerships should equal 10-20 percent of its investment in its R&D base. This goal is not a tax or a set-aside. It does not aim at doing 10-20 percent more work by adding industry R&D objectives. Instead, it strives to achieve at least 10-20 percent of NASA's mission and technology objectives through commercial partnerships. Chapter 7 and Appendix C provide more detail on how this metric is computed.

5.3 Implementing Mechanisms for Commercial Technology Partnerships

5.3.1 Given the criteria in Section 5.1.1, technology commercialization partnerships can be implemented via a broad set of mechanisms as follows:

a. Cooperative Agreements: All cooperative agreements are counted as partnerships, provided that they meet the criteria in Section 5.1. Currently NASA counts the entire investment in these activities toward the partnership goal.

b. Space Act Agreements: This includes nonreimbursable, reimbursable, and funded Space Act Agreements, including Joint Sponsored Research Agreements (JSRAs), provided that they meet the Section 5.1 criteria. Software Usage Agreements and Technology Transfer Agreements are also included within this category. NASA currently counts the entire investment (or dollar equivalent, e.g., when NASA Facilities such as

wind tunnels, Space Shuttle, Space Station, etc., are provided to the private sector for R&D) toward the partnership goal.

c. SBIR/STTR Program: Because of the strong commercialization language in these programs, NASA currently counts the entire investment toward the NPR goal.

d. Cost-Sharing Contracts: A cost reimbursement contract in which the contractor receives no fee and is reimbursed only for an agreed-upon portion of its allowable costs.

e. Independent Research and Development (IR&D) contracts: Contracts with private sector firms conducting Independent Research and Development activities (IR&D) are counted as partnerships. The allowable amount of the IR&D costs under FAR 31.205-18 is counted in this partnership category as NASA's investment.

f. Licenses: NASA may license a new technology/innovation only if it owns, either directly or through assignment, a patent application, a patent or a copyright covering the innovation. Licensing of new technologies and innovations is the key partnership mechanism with respect to NASA "in-house" development activities. NASA may also license new technologies and innovations developed under NASA contracts, grants, and cooperative agreements. NASA will count an estimate of its investment in the licensed technology towards the partnership goal. Licensing the same technology for multiple applications does qualify as multiple partnerships. However, counting the Agency's technology investment multiple times has raised concerns about the credibility of these criteria in this specific situation. While an economic case can be made for counting the Agency's investment multiple times, valuing these type partnerships must be examined on a case-by-case basis.

g. Data, Information, and Research Provided for Potential Commercial Use: NASA makes remotely sensed data, information, and related research available for use by federal, state, and local government agencies and the private sector including universities and industry. Many agreements are made with these non-NASA organizations to demonstrate and validate the utility of NASA-produced remotely sensed data and associated scientific research when applied in local and regional scenarios and commercial ventures. Many are done through a commercial "value-added" information user. These data and information are provided at no cost to partners in the demonstrations and at "the cost of reproduction" to other users. NASA remains responsible for ensuring data validity through its retention in NASA-owned or-sponsored archives. Significant NASA effort and resources are committed to generating and maintaining these data sets, scientific models, and research results for use by the broad community. NASA will count its investment in providing access to the information and research as its contribution to a continuing and growing partnership with the commercial community at large. NASA's investments needed to develop, operate, and maintain the remote sensing instruments, systems, and models could legitimately be included as well.

5.3.2 Cooperative agreements, Space Act Agreements, SBIR/STTR, and cost-sharing contracts tend to be very "efficient" mechanisms in that NASA will count its entire investment in these activities toward the partnership goal. However, in order to count any of these mechanisms as a commercialization partnership, the activity must have significant commercial potential.

5.3.3 All commercial technology partnerships are tracked in NASATechTracS. Each Enterprise and Center is responsible for identifying its activities that qualify as

commercial technology partnerships and providing valid and current data on those activities including the investment estimates associated with several of the mechanisms discussed above, where appropriate. As discussed earlier, each CTO is available to support the program and project managers in this task.

5.4 Identifying Potential Partners

5.4.1 Identifying potential technology commercialization partners is perhaps the most challenging part of the overall technology commercialization process. The difficulty can vary with the type of partnering mechanism that is likely to be used. For example, while cost-sharing contracts may be a very efficient partnering mechanism from NASA's viewpoint; it may be difficult finding willing and qualified partners even if there is significant commercial potential associated with the activity. Often this type of activity may require third parties working with the primary partner in order to successfully realize the commercial potential.

5.4.2 Recognizing this difficulty, the NASA Commercial Technology Network (NCTN) provides a marketing/outreach infrastructure to support NASA managers in finding potential partners. Marketing/outreach activities available through NCTN include:

a. Showcasing your partnering opportunities to potential industry partners at trade shows;

b. Promoting your partnering opportunities through TECHFINDER via TOPS (Technology Opportunity Sheets) and Technology Profiles;

c. Targeting companies by direct mail who are in an industry that can benefit from NASA technology;

d. Showcasing NASA technology at business seminars with high-level corporate executives;

e. Targeting companies in different industries through magazines and public service announcements;

f. Publishing the opportunities in NASA's key publications to include: TechBriefs and Aerospace Technology Innovation (ATI) magazine;

g. Utilizing press releases featuring new technologies;

h. Utilizing the national gateway (a staffed 1-800 phone service/Web site for identifying technology interests) at the National Technology Transfer Center (NTTC); and

i. Utilizing a regional gateway through the Regional Technology Transfer Center (RTTC) in your region.

5.4.3 Each Center's Commercial Technology Office (CTO) is staffed with technology commercialization specialists who can assess partnering opportunities and determine the optimum method for finding an industry partner. They are a resource to you and are your point of contact to perform any of the functions listed above.

5.4.4 Recognizing that premature dissemination of information disclosing a specific technology may create a statutory bar precluding NASA or its partners from obtaining patent protection, each Center's Patent Counsel must approve the technology as releasable to the public before information disclosing the technology may be publicly released. Thus, prior to any marketing/outreach activity concerning a particular

technology, the technology must be reviewed by Patent Counsel and approved for public release. Additionally, whether or not NASA may release information on a specific technology to an external entity is dependent on NASA's rights in the technology and whether NASA has obtained intellectual property protection on the technology. Release of information on a technology, such as may be included in an activity's Technology Commercialization Plan, may require the execution of a Nondisclosure Agreement by the receiving party. Again, consult your Center's Patent Counsel.

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